What is claimed is:

1. A process for producing a titanium dioxide slurry, comprising the steps of:

feeding the output of a micronizer comprising a titanium dioxide and steam mixture to a condenser; and

adding a first titanium dioxide slurry to the condenser, wherein the volume and temperature of the added titanium dioxide slurry are sufficient to condense substantially all of the micronizer output, and wherein the added titanium dioxide slurry combines with the condensed micronizer output to produce a resulting titanium dioxide slurry.

2. The process of Claim 1, wherein the titanium dioxide content of the titanium dioxide and steam mixture is approximately the same as the titanium dioxide content of the first titanium dioxide slurry.

3. The process of Claim 1, wherein the resulting titanium dioxide slurry has a titanium dioxide content of at least about 20 percent by weight.

4. The process of Claim 1, wherein the resulting titanium dioxide slurry has a titanium dioxide content of at least about 30 percent by weight.

5. The process of Claim 1, wherein the resulting titanium dioxide slurry has a titanium dioxide content of at least about 40 percent by weight.

6. The process of Claim 1, wherein the titanium dioxide and steam mixture contains from about 25 percent to about 50 percent by weight of titanium dioxide.

7. The process of Claim 1, wherein the temperature of the micronizer output is sufficient to prevent the titanium dioxide and steam mixture from condensing before the mixture is combined with the first titanium dioxide slurry.

8. The process of Claim 1, wherein the temperature of the micronizer output is at least about 200 °F.

9. The process of Claim 1, wherein the temperature of the micronizer output is at least about 400 °F.

10. The process of Claim 1, wherein the temperature of the micronizer output is at most about 600 °F.

11. The process of Claim 1, wherein the temperature of the micronizer output is at most about 500 °F.

12. The process of Claim 1, additionally comprising the step of further concentrating the resulting titanium dioxide slurry to at least about 60 weight percent of titanium dioxide.

13. The process of Claim 12, wherein the resulting titanium dioxide slurry from the process of Claim 1 is further concentrated to at least about 65 weight percent of titanium dioxide.

14. The process of Claim 13, wherein the resulting slurry is concentrated to at least about 76 weight percent.

15. A process for producing a titanium dioxide slurry, comprising the steps of:

feeding the output of a micronizer comprising a titanium dioxide and steam mixture to a condenser;

adding a first titanium dioxide slurry to the condenser, wherein the volume and temperature of the added titanium dioxide slurry are sufficient to condense substantially all of the micronizer output, and wherein the added titanium dioxide slurry combines with the condensed micronizer output to produce a resulting titanium dioxide slurry;

transporting the resulting titanium dioxide slurry to a storage tank; and

recycling some of the resulting titanium dioxide slurry to the condenser to be used as the first titanium dioxide slurry in the adding step.

16. An apparatus for producing a titanium dioxide slurry, comprising:

a micronizer that produces an output comprising titanium dioxide and steam;

a condenser that receives the micronizer output and combines the micronizer output with a first titanium oxide slurry to condense the titanium dioxide and steam mixture and produces a resulting titanium dioxide slurry.

17. An apparatus for producing a titanium dioxide slurry, comprising:

a micronizer that produces an output comprising titanium dioxide and steam;

a condenser that receives the micronizer output and combines the micronizer output with a first titanium oxide slurry to condense the titanium dioxide and steam mixture and produces a resulting titanium dioxide slurry;

a storage tank that receives the resulting titanium dioxide slurry and recycles some of the resulting titanium dioxide slurry to the condenser.